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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,452

03/29/2004

David E. Slobodin

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11/03/2005

SCHWABE, WILLIAMSON & WYATT, P.C.
PACWEST CENTER, SUITE 1900
1211 SW FIFTH AVENUE
PORTLAND, OR 97204

EXAMINER

BLACKMAN, ROCHELLE ANN J

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. **10/812,452**Applicant(s) **SLOBODIN ET AL.**Examiner **Rochelle Blackman**Art Unit **2851**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/12/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Owen et al. (U.S. Patent Application Publication No. 2005/0152146).

Regarding claim 1, Owen discloses a projection system (for example, see pg. 1, paragraph [0007] and FIGS. 2 and 3) comprising: a solid state light source (see 22 of FIG. 2, 52 of FIG. 3, 92 of FIG. 5; and 132 of FIG. 7); a sensor (see 32 of FIG. 2; 70 of FIG. 3; 104 of FIG. 5; and see 140 of FIG. 7) integrated with the solid state light source to monitor a region of the solid state light source for a thermal condition, and output a signal indicative of the thermal condition of the monitored region; and a controller (see 36 of FIG. 2 and 145 of FIG. 7) coupled to the sensor to conditionally initiate one or

more thermal management actions based at least in part on the thermal condition of the region as indicated by the signal.

Regarding claim 2, Owen discloses wherein the solid state light source comprises a selected one of a light emitting diode and a laser diode (see 22 and/or 52 in FIGS. 2 and 3).

Regarding claim 3, Owen discloses wherein the projection system further comprises an active cooling arrangement (see 38 of FIG. 2 along with paragraph [0037]; 80 and 82 of FIG. 3 along with paragraph [0039]; and 114 and 120 of FIGS. 4 and 5 along with paragraph [0042]) thermally coupled to the solid state light source, and the controller is coupled to the active cooling arrangement to control its operations (for example, see “controller” 36 relative to “solid state light source” 22 in FIG. 2 and see “controller” 145 relative to “solid state light source” 132 in FIG. 2), varying an amount of cooling the active cooling arrangement imparts on the solid state light source based at least in part on the thermal condition of the region as indicated by the signal (see paragraphs [0037], [0039], and [0042]).

Regarding claim 4, Owen discloses wherein the active cooling arrangement comprises a fan (see 82 of FIG. 3 and *fan* in paragraph [0044] of pg. 5), and the controller controls a speed of the fan, varying an amount of air flow the fan drives pass the solid state light source (the amount of air flow of “fan” 82 or the *fan* is considered to be varied when the controller turns the fan on and off).

Regarding claim 5, Owen discloses wherein the active cooling arrangement comprises a cooling pipe (see *heat pipes* in paragraph [0037], see *heat pipe* and *fluid tube* in paragraph [0044], see 114 in FIG. 4 and paragraph [0042]) and the controller controls a flow rate of the cooling pipe, varying an amount of fluid flow pass the solid state light source (the amount of fluid flow is considered to be varied when “controller” 36 or 145 turns on the *heat pipes*, *heat pipe*, *fluid tube*, or “pipe” 114, allowing the fluid to pass through the pipe and turns off the pipe, not allowing fluid to pass through the pipe).

Regarding claim 6, Owen discloses wherein the active cooling arrangement comprises a thermoelectric cooler (see *thermal electric cooler* in paragraph [0044]), and the controller controls an operation level of the thermoelectric cooler, varying an amount of heat being removed from the solid state light source (the amount of heat being removed is considered to be varied when “controller” 36 of 145 is operating the “thermoelectric cooler” to pump heat from “solid state light source” 22 or 132 and not to pump heat from “solid state light source” 22 or 132).

Regarding claims 7 and 8, Owen discloses wherein the projection system further comprises drive circuitry (for example, see 28 in FIG. 2) coupled to the solid state light source to drive the solid state light source, and the controller is further coupled to the drive circuitry to influence its operation, indicating to the drive circuitry to vary an amount of drive voltage or current the drive circuitry applies to the solid state light source, based at least in part on the thermal condition indicated by the signal.

Regarding claim 9, Owen discloses wherein the projection system further comprises a processor (also see 36 of FIG. 2) coupled to the light source to control the light source to project an image; and an input interface coupled to the processor to facilitate input to the processor pixel data of the image.

Regarding claim 10, Owen discloses wherein the processor comprises the controller (also see 36 of FIG. 2).

Regarding claim 11, Owen discloses wherein the projection system further comprises a television tuner (see *small televisions* in paragraph [0056]) coupled to the input interface.

Regarding claims 12-18, the "method of operation" in a "projection apparatus" is similarly met by the features and functions of the above-mentioned elements recited for the "projection system" of claims 1 and 3-8.

Regarding claims 19 and 20, the "projection apparatus" is similarly met by the features and functions of the above-mentioned elements recited for the "projection system" of claims 1 and 3.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muthu et al. (U.S. Patent Application Publication No. 2003/0066945), Average Light Sensing for PWM Control of RGB LED Based White Luminaries.

Young (U.S. Patent Application Publication No. 2005/0122065), Dynamic Color Mixing LED Device.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RB

William Perkey
Primary Examiner